

THE EUROPEAN SPACE AGENCY AND THE ASTRONAUTS' POLICY

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Last year we celebrated the 30th anniversary of the Outer Space Treaty (OST); this year it is to be "Agreement on the rescue of astronauts, the return of astronauts and the return of objects launched into outer space" (opened for signature on 22 April 1968 and entered into force on 3 December 1968).

I wish to mention two other facts of particular relevance when we speak in Europe about the legal status of astronauts:

- 1) the signing in Washington, on 29 January 1998, of the new International Agreement on the Space Station and the Memorandum of Understanding between NASA and ESA, and
- 2) the Resolution to be passed this week by the ESA council on the setting up of the European Corps of Astronauts replacing a previous Resolution passed in 1989.

The rescue and return Agreement of 1968 develops Article V of the OST: "States parties to the Treaty shall regard astronauts as envoys of mankind in outer space and shall render to them all possible assistance in the event of accident, distress or emergency landing...". The rescue and return Agreement, prompted "by sentiments of humanity", details the obligations of States informed of an accident or emergency situation (1).

However, this Agreement is very limited in its scope; there is no definition of the "astronaut" (including "envoy of mankind") and nothing is said about the living and working conditions in outer space, and even on earth, when preparing a mission (selection, training, etc.) (2) (3). All these points are left to bilateral provisions between the authority providing the space transport and the authority providing the passenger (the "astronaut"). One can say that a new section of space law has been developed, and this is not very well known, without the involvement of international legal bodies, in particular the one of the Legal Sub-Committee.

I will do my best to provide you with the overall landscape, going from the selection and training of astronauts (in ESA) to their status as staff members and, of course, their status on board of a space object (US Shuttle, MIR station, and next the International Space Station -ISSA), their status to be based on a "code of conduct". It is not the time to think about a complement to this Agreement when considering the growing number of astronauts and flight opportunities and the possibility of living and working for several months largely opened ?

*This paper represents only the views of its author.

CHAPTER I

Towards a unified European Space Agency policy on Astronauts

The flight opportunities - developing a policy

1. Spacelab or entering the manned space flight

In the early '70s, the US Government proposed to Europe to cooperate in the post-Apollo programme. Participation in the US Shuttle was retained with Europe (ESRO) providing the Spacelab [an Intergovernmental Agreement (IGA) and a Memorandum of Understanding (MOU) were signed in August 1973]. As exchange for the delivery of the Spacelab flight unit, ESRO received one flight on board the US space shuttle for a European astronaut.

The Spacelab IGA and the ESA/NASA MOU of 1973 are very brief concerning the astronauts:

“The Government of the United States of America will provide Spacelab flight crew opportunities to nationals of the European partners in connection with their space missions involving a Spacelab ... a European crew member will be included in the flight crew of the first Spacelab flight” (Art. 7.F of the Spacelab IGA)

The first flight of the first European astronaut (ESRO/ESA) - Ulf Merbold - took place on STS-9 in 1983.

Despite the efforts of ESA to change NASA's approach, Spacelab was finally considered as being an integral part of the US space shuttle, and it was not possible to obtain its separate registration from the shuttle; therefore the ESRO astronaut was

subject to US laws and regulations (4).

The non-US personnel flying on board the Shuttle come under the US code of Federal Regulations, title 14, Chapter V, part 12,4 which deals, among other things, with the personal preference kit, and the authority of the on-board commander - ESA and NASA established procedures on the conduct of medical experiences on board/guidelines and general procedures for the conduct of Spacelab experiments using humans as test subjects - ESA/SL-79 of 12 March 1979. The exchange of letters of July 1975 between ESA and NASA on the flights of U. Merbold and W. Ockels should also be noted.

The ESA Declaration of Acceptance of the Astronauts and rescue Agreement

Article 6 of the Astronauts and Rescue Agreement - through the definition of the "launching authority" - provides the possibility for an international intergovernmental organization to declare its acceptance of the rights and obligations provided for in this Agreement. The conditions for such a declaration being fulfilled, the ESA Director General notified the depositary governments with the acceptance Declaration (see text reproduced in Annex).

2. ESA Manned Space Flight Policy - Columbus and Hermes programmes

ESA entered formally into a Manned Space Flight Policy at the Council at Ministerial level held in The Hague, November 1987,

when approving the Columbus and Hermes Programmes thus trying to have its own manned space objects.

The Columbus Declaration, drawn up on 15 December 1987, implementing the ESA policy in response to President Reagan's offer to participate in the International Space Station project (January 1984), states that "the Agency shall be responsible for tasks relating to the astronauts (selection, training and development of equipment)".

Annex C, para. 4, of this Declaration contains provisions on astronauts (reproduced in the Annex) mentioning, in particular, that the Agency shall draw up an Astronauts' Handbook defining the arrangements for selecting, training and qualifying astronaut "...on board the inhabited international space station base the astronauts shall be governed by the code of conduct...this code shall be an integral part of their contract with the Agency. The astronauts shall be placed under the authority of the flight commander of the inhabited base".

Similar provisions can be found in the new IGA on the International Space Station and the new MOU between NASA and ESA, signed in Washington on 29 January 1998.

The ESA Resolution on the European Astronaut Policy (28 June 1989), (attached hereto)

First this Resolution welcomes the concept of an overall policy (France, Germany having their own national astronauts) and the setting up, under ESA's Director General, of the authority of a single European Corps for ESA activities and programmes. The Director General is invited to develop criteria and procedures for the selection, recruitment, training and flight assignment of the European astronauts Corps. The

European astronauts will become ESA staff members governed by specific regulations, including an appropriate code of conduct.

ESA Astronauts Centre (EAC) - The European astronauts home base

In connection with this policy it was decided to set up in Germany, near Cologne, an ESA facility dedicated to the Astronauts. An Agreement between ESA and the German Government was signed on 10 May 1990.

3. The international cooperation

MIR flight (Euromir)- the cooperation with Russia is based on a different concept: here ESA is buying a long duration flight opportunity, the provisions are contained in a contract. The contracts answers the same type of questions, including the authority of the on-board commander. There is no particular derogatory provision as far the applicable law (the Russian law applies).

The International Space Station Agreement - The idea of a Code of conduct

According to the IGA, Article 11, "Each Partner has the right to provide personnel to serve as space station crew from the time the partner begins to share common system operations responsibilities".

The code of conduct is developed by all the partners and is subsequently accepted at Government level of a partner's internal procedures, as required.

In the 1988 NASA/ESA MOU, NASA was responsible for flight assignments of the Partners crew members in full consultation with the Partner concerned.

A first set of Agreements were concluded in September 1988 (IGA and MOU) related to a first type of International Civil Space

Station (named Freedom); the arrival of Russia into the partnership and the re-configuration of the Station led to a second set of Agreements signed on 29 January 1998.

The 1998 approach varies in its implementation due to the setting up of a number of multilateral bodies: the multilateral crew operators panel, the multilateral medical policy board, the human research multilateral review board.

However the basic principles remains: the jurisdiction and control principle - and the developing of a Code of Conduct applicable to persons on board - the Partners receive the right to provide astronauts according to their participation in the operation costs. A non-Partner could also designate an astronaut on the basis of a bilateral agreement (NASA and Brazil have concluded such an Agreement).

The IGA and MOU are not identifying categories of astronauts: these distinctions will be developed in Implementing Arrangements, the execution of which being under the control of various Boards and Committees. -

Each Partner still has to develop its own criteria for recruiting, selecting, training its own astronauts (6) (7) (8).

CHAPTER II

1. The Astronaut - an ESA Staff member (recruitment, selection, training)
2. The Astronaut on board a Space Station - code of conduct
3. The need for a Charter? How the Legal Sub-Committee could follow the matter?

1. The ESA astronaut is an ESA staff member to which the ESA staff rules and regulations apply. Until now, despite what was foreseen in Council Resolution of 1989, there is no special chapter in the ESA staff rules dedicated to astronauts. Nevertheless, some provisions were retained in the recruitment since the first selection of astronauts at the end of 1970, in 1972 or in the present time frame.

Now another exercise is taking place until the pooling of resources in Europe. Representatives of France, Germany and Italy were invited by ESA's Director General to examine how to build a European Astronaut policy. The objective is to set up an integrated single European Astronauts Corps managed by ESA (leading to discontinuation of the national astronaut programmes).

ESA elaborated medical criteria (ESA/PB-COL(90)16 of 25 April 1990) which are compliant with both NASA and Russian criteria. With this objective of a European Integrated Astronauts Corps, the 1989 Resolution has to be updated and the current meeting of ESA Council is presented with a new Resolution to that effect.

For the time being it is intended to consider the astronauts like any other staff member and, contrary to what was intended after the 1988 IGA, no specific Chapter is foreseen in the Staff Rules. Speaking personally, I would say that this approach does not correspond to the astronauts' peculiarities and I remain

convinced it would be justified to develop specific rules for astronauts (recruitment, selection, medical conditions, home base, training, plus the reference to the code of conduct, or the international rules).

2. The training - a first training is performed in ESA and the training as mission specialist in the United States or in Russia; the ESA astronauts being assigned to a flight are signing a Standard of conduct agreement (see Annex).

Code of Conduct: the draft IGA proposed by Europe when negotiating the first IGA contained this idea which was retained by the partners and is still in the latest MOU (Art. 11) between the cooperating agencies. The Code of Conduct should, in particular: establish a clear chain of commands, the role of the on-board commander, the classes of various personnel (on board, commander, pilot payload specialist, mission specialist), set forth standards for work and activities in space (and on ground), deal with intellectual property rights, confidentiality when an astronaut manipulates experiments having a potential commercial content, establish responsibilities with respect to elements and equipment (liability for damage, we know the recent case of the Russian cosmonauts whose liability was examined after the collision having caused damage to MIR). The Code of Conduct should also set forth disciplinary regulations, establish physical and information security guidelines.

3. The astronaut's obligations - An

astronaut, before being assigned to a flight, will have to sign a form, a conduct agreement, with the purpose of obtaining his/her consent:

- to be subject to the authority, orders and direction of a commander;
- to limit the disclosure of data which are protected, and
- to refrain from using his/her information obtained in the course of his/her assignment for personnel gain.

We have to refer to other provisions, in particular:

- the criminal jurisdiction - misconduct causing damage to one partner's flight element or injuring a crew member of one partner. IGA can constitute a treaty basis to proceed with extradition and encourages the Partners to assist each other in securing evidence for outer prosecution of an alleged perpetrator,
- cross-waiver of liability,
- intellectual property; protection of the security of information.

More work is needed, including at government level, to develop international rules governing activities of a space station crew member. A corresponding work is also needed at European (ESA) level.

4. Finally, I would resubmit my proposal to develop a "Charter for astronauts" (9), a text in which we would have provisions not only on the obligations, the duties, but also on the rights of astronauts, their protection, privacy of their lives, etc. This charter could become a leading text when establishing legal provisions in International Agreements.

Such a charter would also provide for the Legal Sub-Committee to be kept informed, in particular to be aware of the implementation of the concept of "envoys of mankind". Such a Charter would constitute a complement (an Annex?) to the Astronaut Rescue Agreement of 1968, which is so empty on matters of living and working in outer space (10).

It would address, as largely already mentioned:

- the different categories of astronauts and the role of the on-board commander,
- medical criteria to be applied (an ESA astronaut having successfully gone through ESA's tests, and therefore complying with ESA's criteria and standards, has to repeat these tests all over again in the United States or Russia before being admitted to fly on board the Shuttle or MIR as if no one had confidence in the tests performed by another agency,
- privacy of life, personal data protection,
- relations between the station and the ground,
- confidentiality, intellectual property rights,

all questions of interest for space law, human law, etc.

I would also suggest that States and Agencies concerned inform regularly the Legal Subcommittee on the standards, national rules or international agreements provisions which are being developed to cover the different matters mentioned in this paper.

Elements of a Bibliography

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(1) Other provisions contained in other Agreements are also of interest, such as: - Article IV of the 1972 Liability Convention; - Article 10 of 1979 Agreement on the Moon and other celestial bodies

(2) See Working Papers A/AC-IO/C-2/L.159 of 27 March 1987, submitted by UK and A/AC-IO/C-2/L.161 of 1 April 1987 by Czechoslovakia, related to the assistance to crew on board of an inhabited space station

(3) V.S. Vereshchetin, Elaborating the legal status of astronauts. See also articles Bom Diedericks-Vershoor, G.S. Robinson - A. Gorbiel - Carl Christol in Hastings International and Comparative Law Review, Vol.7, N°3 - Spring 1984

(4) G.P. Sloup, The NASA Space Shuttle and other aerospace vehicles: a primer for lawyer on legal characterization California Western School of Law, Summer 1978, Vol. 8, n° 3

(6) G. Lafferranderie, Les accords relatifs à la station spatiale internationale Revue Générale de droit international public Ed. Pedone, avril- juin 1989, N°2

(7) A. Farand, The Astronaut in the Space Station Era, in Outlook on Space Law over the next 30 years, Ed. G. Lafferranderie and D. Crowther, Kluwer 1997

(8) International Colloquium - Cologne 19-22 March 1992 -Manned space flights - Legal aspects in the light of scientific and

technical development - Institute of Air and Space Law, University of Cologne

(9) G. Lafferranderie, Pour une Charte de l'astronaute Annales de droit aérien et spatial McGill University, 1987, pp. 263, 277

(9) G. Lafferranderie, Espace juridique et juridiction de l'espace, in "L'homme dans l'espace" Nouvelle encyclopédie, Diderot, PUF, 1993

(10) Prof. K.H. Böckstiegel, V. Vereshchetin, S. Gorove, Draft for a Convention on manned space flight.

ANNEX-Acceptance Declaration

Declaration Relative A L'accord Sur Le Sauvetage Des Astronautes, Le Retour Des Astronautes Et La Restitution Des Objets Lances Dans L'espace Extra-atmospherique adoptée le 25 juin 1975 par l'Agence Spatiale Européenne

L'Organisation Européenne de Recherches Spatiales créée par une Convention ouverte à la signature à Paris le 14 juin 1962, conduisant à compter du 31 mai 1975 ses activités sous le nom d'Agence Spatiale Européenne,

RAPPELANT qu'elle a pour tâches d'exécuter à des fins exclusivement pacifiques, pour le compte et au nom de ses Etats membres, des programmes de recherche et de technologie spatiales et de leurs applications spatiales,

AYANT PRIS ACTE des dispositions de l'accord sur le sauvetage des Astronautes, le retour des Astronautes et la restitution des objets lancés dans l'espace extra-atmosphérique, entre en vigueur le 3 décembre 1968, et en particulier de son Article 6.

CONSIDERANT que la majorité de ses Etats membres est partie au Traité sur les principes régissant les activités des Etats en matière d'exploration et d'utilisation de l'espace extra-atmosphérique, y compris la Lune et les autres corps célestes, ainsi qu'audit Accord,

DECLARE ACCEPTER les droits et obligations prévu dans ledit accord,

CONSTATE qu'en application de l'Article 6,

l'expression "autorité de lancement" mentionnée dans ledit accord lui est applicable à la date de la présente Déclaration.

Columbus Declaration - provisions on astronauts

ESA/PB.Columbus/XVIII/Dec.1 (final),
rev.1

DECLARATION ON THE COLUMBUS DEVELOPMENT PROGRAMME drawn up on 15 December 1987, updated on 29 May 1988

3. The Agency shall ensure that the geographical distribution of work under this programme is in accordance with the objectives defined by the ESA Convention and by Council; it shall periodically supply the participating States with the relevant information.

4. In addition to the systems and facilities developed within the framework of the Agency, the latter shall strive to use the facilities available in the participating States, as described in ESA/C(87)84 and corr. 1, and in accordance with the principles as described in Resolution ESA/C/LXXIX/Res. 1, adopted on 5 November 1987.

5. The Agency shall retain responsibility for the conduct of the activities preparatory to utilization of the Columbus elements and shall have appropriate recourse to the capabilities available in the participating States, in the light of the utilization requirements of other Agency programmes.

6. The Agency shall be responsible for tasks relating to the astronauts (selection, training and the development of equipment) and shall delegate implementation tasks to DFVLR on the basis of Resolution ESA/C/LXXIX/Res. 1 adopted on 5 November 1987.

7. The agency shall conclude a Memorandum of Understanding with NASA on the basis of the principles laid down in the Agreement among the Governments Of the United States of America, the Governments Members of the European Space Agency, the Government of Japan and the Government of Canada on Cooperation in the Detailed Design, Development, Operation and Utilization of the Permanently Manned Civil Space Station.

EUROPEAN SPACE AGENCY

RESOLUTION OF THE EUROPEAN ASTRONAUTS POLICY (adopted on 28 June 1989)

ESA/C/LXXXVII/Res.1 (final)

The Council,

RECALLING the objectives it reaffirmed in the resolution ESA/C-M/LXXX/Res. (Final) adopted on 10 November 1987 regarding in particular man in space,

RECALLING the Intergovernmental Agreement on the International Space Station and the ensuing Memorandum of

Understanding between the NASA and ESA signed on 19 September 1988,

CONSIDERING that the Hermes and Columbus programmes will provide the necessary European in-orbit infrastructures for the transfer of equipment and crews and for making use of low earth orbits,

CONSIDERING the valuable expertise already gained by Member States and by the Agency by the participation in cooperative manned missions, as well as their engagement in astronauts training

RECALLING that the Columbus and Hermes development programme Declarations affirm the Agency's overall responsibility for selection and training of astronauts and the development of related equipment,

RECALLING the decision to set up the European Astronauts Center in Cologne (federal republic of Germany).

CONVINCED of the need and importance of defining and implementing an overall European policy on astronauts of all categories for the Agency missions,

HAVING REGARD to documents ESA/C(88)9, and ESA/C(89)9, rev.1,

HAVING REGARD to Article XI.5.m of the Convention,

I. WELCOMES the concept of an overall policy which will correspond to the efficient use of all European resources and will reinforce the European identity and unity, ENDORSES the basic principles laid down in document ESA/C(89)9, rev.1, in particular the setting up under ESA's Director General's authority of a single European astronauts corps for ESA activities and programmes; when building up the

corps, the Director General will act in a manner integrating as appropriate the expertise and resources existing in Member States; taking into account the foreseeable number of flight opportunities and the training period duration; permitting every Member State and participating States in the Columbus and/or Hermes programmes to be represented in crewed flights over time, it being understood that this setting up will be progressively achieved.

II. NOTES the Director General will develop criteria and procedures for the selection, recruitment, training and flight assignment of the European astronauts, criteria and procedures to be reviewed by the relevant Programme Boards;

AGREES that a preselection of candidate astronauts will be done by Member States, with the assistance of the Agency if so requested;

NOTES that for the selection the Director General can make use of national experts and facilities;

NOTES that the Director General will take his decisions on flight assignments after the due consultation with Member States and will regularly report to them.

III. AGREES that the European astronauts become ESA staff members, governed by specific regulations as appropriate, including appropriate Code of Conduct;

RECOMMENDS the Member States to use, as the case may be for a dedicated mission in cooperation with a non-Member State, the resources of the European corps.

IV. CONSIDERS that in special circumstances during the future operation phase, it may be opportune to use astronauts

from Member States seconded to ESA for specific missions and, in case of a mission not funded by ESA, a dedicated astronaut could be necessary; these astronauts shall comply with the relevant qualifications and regulations of the European astronauts corps.

**ESA/NASA Astronaut Training
Agreement (1992)**
**Standards of Conduct Agreement to be
signed by the astronaut assigned to a
flight**

ENCLOSURE I
NATIONAL AERONAUTICS AND
SPACE ADMINISTRATION /
EUROPEAN SPACE AGENCY
ASTRONAUT CANDIDATE / MISSION
SPECIALIST STANDARDS OF
CONDUCT AGREEMENT

Pursuant to the authority of the National Aeronautics and Space Act of 1958, as amended, the National Aeronautics and Space Administration (NASA) has agreed to permit the undersigned, _____, an employee of ESA, to train as a foreign Mission Specialist astronaut-candidate and as a foreign Mission Specialist after the successful completion of the basic training candidacy period. Under the terms of the National Aeronautics and Space Administration (NASA) and European Space Agency (ESA) Mission Specialist Training Agreement, the ESA Mission Specialist may then be eligible for a Space Shuttle flight assignment. As part of the overall consideration for this training and any flight opportunity, NASA and the undersigned agree to the following terms and conditions:

1. As long as the undersigned is designated as a Mission Specialist astronaut-candidate or a Mission

- Specialist, the undersigned agrees to refrain from any use of the position of Mission Specialist astronaut-candidate or Mission Specialist that is motivated, or has the appearance of being motivated, by the desire for private gain for herself/himself or other persons.
2. If the undersigned acquires information in the course of performing Mission Specialist astronaut-candidate or Mission Specialist duties that is not generally available to those outside NASA, the undersigned agrees not to use this information to further a private interest or for the special benefit of a business or other entity in which the undersigned has a financial or other interest.
 3. The undersigned agrees to limit the use and disclosure of any marked or otherwise identified proprietary data to those purposes necessary for the performance of assigned tasks. In addition, in recognition of the fact that data resulting from the testing and operation of a payload may constitute valuable data and invention rights, the undersigned agrees to maintain the resulting data under protective conditions, limiting its use and disclosure solely to the performance of assigned tasks.
 4. The undersigned agrees not to use the Mission Specialist astronaut-candidate or Mission Specialist position in any way to coerce, or give the appearance of coercing, another person to provide any financial benefit to the undersigned or other persons.
 5. The undersigned agrees to avoid any action, whether or not specifically prohibited by law or regulation, which might result in or create the appearance of:
 - (I) Using the Mission Specialist astronaut-candidate or Mission Specialist position for private gain for herself/himself or others;
 - (ii) Giving preferential treatment to any organization or person;
 - (iii) Impeding U.S. Government efficiency or economy;
 - (iv) Affecting adversely the confidence of the public in the integrity of the U.S. Government; or
 - (v) Reflecting unfavourably on NASA or the U.S. Space Program
 6. The undersigned agrees not to directly or indirectly use or allow the use of U.S. Government property of any kind, including property leased to the Government, for other than activities approved by NASA. The

undersigned agrees to protect and conserve U.S. Government property, including equipment, supplies, and other property entrusted or issued to the undersigned.

- 7. The undersigned agrees to be subject to the authority of the Space Shuttle Commander and conform to his or her order and direction as authorized by 14 C.F.R 1214.7, entitled "The Authority of the Space Transportation System (STS) Commander."
- 8. The undersigned agrees to comply with 14 C.F.R. 1214.6, entitled "Mementos Aboard Space Shuttle Flights".
- 9. The undersigned agrees that NASA Management Instruction 7100.8A, entitled "Protection of Human Research Subjects", is applicable to any research experiments involving human subjects that the undersigned may participate in during the course of activities under this Agreement.
- 10. The undersigned agrees to comply with all U.S. Government regulations and management insurances related to safety, security and other installation matters that are in effect at the various U.S. Government installations at which he/she functions during the pre-flight, flight and post-flight periods.

This agreement is effective upon the last signature hereto and will remain in effect for six months following the last Shuttle flight on which the subject Mission Specialist flies, or until the undersigned Mission Specialist astronaut-candidate or Mission Specialist terminates, or is terminated from, such capacity, whichever occurs last.

Questions concerning the applicability of any provision of this agreement, including questions as to whether any proposed activity or actions by a Mission Specialist astronaut-candidate or Mission Specialist would appear to violate paragraphs 1, 4 or 5, should be directed to the General Counsel of NASA or his designee.

BY: _____
Edward G. Frankle (ESA Mission
General Counsel Specialist)

DATE: _____ DATE: _____